Security alert!

Thieves target scanners and endoscopy equipment

Size is not necessarily a problem

Thieves obviously find smaller equipment more portable, e.g. hip replacement instruments (value: £10,000) stolen from a hospital where, a year earlier, five laptop computers (value: £15,000) were stolen - and the eight endoscopic devices (value: £300,000) stolen as recently as December.

However, in February last year, two ultrasound scanners (value: £170,000), delivered for use in the out-patients maternity department at West Middlesex University Hospital, London, were stolen two days later. The department had been locked and evidence of a break-in was not found, giving rise to speculation that a stolen hospital swipe card had been used for entry. (The equipment: SSD Aloka 3500 Model Number: M02935 - serial number: 102935, and SSD Aloka 3000 Model Number M02741 - serial number not recorded, but this system was equipped with a curvy linear trans-abdominal probe, and was the only machine of this type, in the UK, to have a Panasonic DVD attached.)

Other thefts in 2005 include: May - Thieves made off with £80,000 worth of cardiovascular equipment from Addenbrooke’s Hospital, Cambridge. July - A £35,000 cardiovascular scanner was stolen from North Durham University Hospital. October - (and in nine months of activities) three targeted Leicester General Hospital and Newcastle’s Freeman Hospital, stealing endoscopy equipment. In 2004/05 Leicester hospitals reported 31 thefts of hospital equipment. The continued on page 2
The United Kingdom’s Diabetes Retinal Screening Service is a national screening programme that aims to screen 80% of the diabetic population by 2006 and 100% by 2007. The National Health Service (NHS) Purchasing and Supply Agency (PASA) has improved software from three companies for use in the programme.

The first major screening programme - to monitor the sight-threatening diabetic retinopathy (RTD) in a 12-month period - was successfully used secure messaging technology to transfer digital images of patients’ retinas, combined with an electronic patient administration system, between computers used by opticians, specialists and a screening administration centre within primary care trusts (PCTs). This screening programme uses OptiMike® IP software, developed by Cambianta-based university spin-off company Digital Healthcare, which specialises in software for diabetic retinal screening programmes and ophthalmology. The installations are used in hospitals and ophthalmic practices in the UK, as well as in private practices, hospitals and universities in the USA, with satellite usage in European countries, Australasia and the Far East.

Alison Johnson, Head of Priority Clinical Services Development at Chorley & South Ribble PCT, pointed out that the software enables the use digital photography for retinal screening, in line with some other local diabetes care initiatives. ‘Our screening staff can use the software to manipulate and analyse images of each patient’s retina, and to monitor changes by comparing retinal images taken at different points in time. They can also print the images to share with patients, involving them in the treatment. This is much more effective than conventional eye examinations with slit lamps, and film-based retinal images which can be less detailed and deteriorate over time. The software is also fully-automated so the screening administration staff can check patients’ progress through the system, and after screenings, they can automatically generate reports to patients and GPs, or referrals to ophthalmology clinics if further investigations are needed.’

Details: www.digital-healthcare.com

**Reimbursement for bowel endoscopy**

**Czech Republic** - The Ministry of Health has issued a reimbursement policy for PillCam SB capsule endoscopy, produced by Given Imaging Ltd. This decision promotes the endoscopic screening of up to around seven million Czech citizens covered by the Všeobecná zdravotní pojišťovna insurance company. The company Digital Healthcare, which specialises in software for hospitals and universities in the USA, with satellite usage in more than 50 other countries, making it available for around 260,000 patients worldwide. Additional capabilities for visualisation of the stomach, colon and spleen are under development.

**Given Imaging Ltd**

**Cardiovascular disease**

continued from page 1

Cardiovascular disease has been shown to make up 2.98 million CVD sufferers receiving 2.95 billion hours help from unpaid carers. Around 1,375 million people were involved in providing unpaid care to patients with coronary heart disease or cerebrovascular disease alone.

In-patient care accounted for 60 billion (£37 million) of the healthcare costs. Pharmaceutical expenditure at £28.4 billion represented 27%, with primary, outpatient and emergency care accounting for 16%.

A breakdown of the contributions that the various types of CVD made to the total costs showed that coronary heart disease and cerebrovascular disease accounted for nearly two-thirds of all CVD deaths and 47% of costs. So, other CVDs, such as high blood pressure or other forms of heart disease, contributed an even bigger proportion to the economic burden, the researchers report.

The study also revealed the hidden costs of informal care for the first time - an estimated £29 billion with too little relative to others, its real use is to enable comparisons to be made within countries, and the whole of the burden imposed by different diseases. This should help potentially to prioritise scarce resources.

There have been few cost-of-illness studies evaluating the impact of other diseases in the enlarged EU, although estimates for diabetes range from €32 billion to €41 billion.
WORK ANALYSIS

The problem is ubiquitous: Due to their workload, medical teams cannot accomplish their tasks to everyones satisfaction during regular working hours. Is the solution to raise staffing levels? More politics? At a political level a framework could be created but its actual implementation must occur within a facility, because that is where work schedules are drawn up, writes Denise Hennig, reporting on a work analysis system produced by Documix GmbH, of Grevenhain- Bermen, Germany. The system, available in the German language, is currently utilised at the Katholische St Johannes Gesellschaft, Dortmund (comprising four hospitals), Karl Olga Hospital, Stuttgart, and the Lungenklinik Hemer.

Medical personnel may perform several tasks that lie outside their professional scope, which, quite often, could be performed more cost-effectively by other employees. Nurses, for example, might become involved in cleaning, food distribution, clerical work and transportation, whilst doctors might take on wound and/or patient management and administration. Using overqualified staff for these tasks is not only a significant waste of resources (see table) and finance, but could also demotivate physicians or nurses who must undertake activities unrelated to their professions. Providing more appropriate personnel for those activities could alleviate the problem.

The solution lies in reporting and work analysis. Traditional procedures, such as self-reporting or multi-moment analyses, provide only marginally useful results if medical or nursing activities last only four to eight minutes. The answer lies in data capture on mobile digital equipment, such as the Documix DocuLine. About the size of a pocket calculator (14 x 7 x 1.5 cm) this device has a keypad, display and integrated bar code scanner.

During their shifts, staff members use the device to enter all services provided to each patient. The software ‘DocuKeeper’ transmits this data to the ward computer, which contains the entire data management, e.g. patient records, etc. A further programme, DocuAnalyt, analyses the services data, and the results suggest where changes and adjustments to work structures could be useful.

The percentage of activities not directly related to professional qualifications varies from profession to profession. The analysis can show not only which activities are often interrupted due to external demands on a staff member, but also illustrates the interdependence of the various groups. On some wards, for example, the permanent presence of nurses during visiting times could create problems if not enough staff is available to tend patients in need.

Peak times and off-peak times Certain activities are sometimes performed too quickly, simply due to the workload, whilst during quieter periods tasks can be performed with full concentration. A constant swing from extreme peaks to off-peaks and back creates additional and avoidable staff stress.

Once reliable measurements of workflow and durations are obtained, the staff should discuss those facts, together, to make realistic work allocations. The degree to which these have been adopted can be assessed during follow-up measurements. An important side effect is that costs can also be assessed.

It is a hospitals task to make and implement the necessary decisions. Adjusting the workforce structure is a more sensible solution than making staff redundant, and it is a solution from which, in the end, everyone will benefit:

- Physicians and nurses are relieved from non-profession-related activities
- The hospital will save on personnel costs
- Patients will be better cared for

Sensible staff management could save over 30% of personnel costs annually because medical staff can focus on core tasks.

Additional benefits: improved documentation, precisely calculable personnel costs for individual DRGs, or empirically supported patient paths that will be useful to other departments. Using the analysis, the PPR (Pflege-Personalregelung) regulation regarding care personnel requirements) or LEP (Leistungserfassung für die Pflege) reporting of care services data can be verified.

However, the most important issue is not the technology (even the most sophisticated data collection will end up in the bin if results are not implemented) but the will and capacity of a hospital to manage change.

Details: www.documix.de

Further management features: EH pages 9-11

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AGFA

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The field of intensive care medicine is vast, and it is no mean feat to design a programme that accurately reflects all the developments of the preceding 12 months. However, after much discussion and negotiation with the international team of scientific advisors carefully draws up the programme and all participants will find something of interest. Simultaneous sessions are held in several conference rooms so that as much as possible can be covered during the four-day period. As a taster, here is a small selection of the many important topics that will be covered during the 4-day meeting (full programme: www.intensive.org):

- Continuing advances in our understanding of the pathophysiology of sepsis and ARDS and development and use of new treatment modalities.
- Recent results with non-invasive haemodynamic monitoring systems.
- A new look at some old controversies, including colloids versus crystalloids, dopamine versus nor-epinephrine, when to transfuse, etc.
- Aspects of ICU management, including cost-effectiveness analyses, quality-of-life, and information technology.
- Benefits and limitations of medical emergency or outreach teams.
- The impact and management of major disasters, both natural and unnatural.

Intensive care medicine is one of the fastest growing hospital specialties with new and important pathophysiology, diagnostic, technological, and therapeutic advances appearing so often that, despite improvements in the dissemination of these developments, via email and internet, it is sometimes hard to keep up with the latest best practice. The ISICEM provides a valuable forum for continuing education, enabling nurses and other healthcare professionals to learn in a cerebral and socially stimulating environment. In addition to the high quality educational sessions, the possibility for participants to interact, discuss and debate with colleagues from ICUs in other countries and continents adds much to the success of the ISICEM. The aim of the meeting is that each participant will have learnt something new to take home and apply in his or her ICU.

We look forward to seeing you in Brussels in March for what promises to be another inspiring and motivating ISICEM.
Maquet’s new Cantellus system is a flexible, highly mobile patient-monitoring system designed to provide full control over the patient’s vital signs anywhere in a hospital and during patient transportation. Windows-based and modular, it can be used as a standalone or as part of a network. The system ensures integration into clinical information systems, and with various ventilators and anaesthesia systems, and is designed to simplify user-customised configurations for the bedside monitor, transport monitor, and at the central station.

Cantellus Panel, a compact bedside unit, incorporates a PC and monitor and, Maquet reports, it is particularly suited to patient monitoring in the operating theatre (OT), post-op or recovery, the ICU and the CICU. Cantellus Transport offers the same functionality, and is lightweight (less than 4kg) and robust.

Each networked monitor provides bed-to-bed communication, and the Cantellus Central Station provides remote view and control of over 64 beds. The memory capacity for trend storage exceeds 48 hours and up to 5,000 events can be saved.

Maquet points out that the system uses unique Parameter Boxes to store, analyse and compare cardiopulmonary data, and adds: ‘Since the parameter boxes are independent of the actual monitoring unit and remain with the patient during transport, time-consuming disconnection and recalibration is not necessary.’

The Vest Airway Clearance System (which is technique independent and treats all lobes of the lungs simultaneously) helps to mobilise pulmonary secretion via high-frequency chest wall oscillation. Used in the USA for several years, over 80 clinical trials have demonstrated the effectiveness of high-frequency chest wall oscillation (HFCWO) therapy for patients with a variety of conditions. In addition, several peer-reviewed studies have demonstrated the Vest system’s ability to clear mucus more effectively and maintain or improve pulmonary function better than conventional chest physiotherapy.

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Oscillation system moves mucus

Connected by tubes to an air-pulse generator, the vest is rapidly inflated and deflated to compress and release the chest wall. During this HFCWO the rapid chest movement mimics ‘mini-coughs’, which dislodge and thin mucus, moving it along to the central airways.

To date, the system has been prescribed for respiratory complications associated with over 350 diseases and conditions, e.g. secretion clearance dysfunction associated with cystic fibrosis, muscular dystrophy, chronic obstructive pulmonary disease, and cerebral palsy. The maker also reports that it also has been successfully used to maintain healthy lung function in post-operative, ICU, and post lung transplant patients.

The manufacturer adds that, in clinical outcomes studies, the system is associated with improved secretion clearance; stabilised or improved pulmonary functions; improved exercise tolerance; reduced incidence of pneumonia and related hospitalisations; higher patient satisfaction and therapy adherence, and reduced healthcare costs.

Details: www.thevest.com
Or: Edwin_simons@hill-rom.com

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Because you care
Alfred Schiller founded Schiller AG in 1971 and three years later introduced his first product - a pocket-sized electrocardioscope, which has been built on successively over the years. The electrocardiography product range extended, and in 1984 the firm was changed. In addition, the company developed a six-channel EEG with automatic interpretation and measuring. This system promoted us into the top league," Alfred Schiller reflected, during our interview. New cardiological diagnosis products, lung function measuring systems and non-invasive blood-pressure measuring equipment, as well as Doppler-ultrasound scanners followed, and later came patient monitoring and defibrillation.

Schiller AG

Alfred E Schiller, founder and managing director of Schiller AG, based in Baar, Switzerland, describes the rise of his company and its place in today's highly competitive intensive care market.

"Our specialty is extremely high defibrillation. Schiller later came into being. Patient monitoring and equipment, as well as Doppler-invasive blood-pressure measuring systems and non-invasive blood-pressure measuring equipment, as well as Doppler-ultrasound scanners followed, and later came patient monitoring and defibrillation. Alfred Schiller, founder and managing director of Schiller AG, based in Baar, Switzerland, describes the rise of his company and its place in today's highly competitive intensive care market.

"We have 21 sales and production enterprises worldwide, spread over all continents, from which we serve the different markets. The procedures are regionally different. Countries such as Germany have a good, specialised trade structure, other countries don't have enough specialist distributors, so we have to penetrate the market with our own distributor - all in all we employ about 600 people. We are the only Europeans who ever managed to penetrate the US market, where we are number two among the established companies. We did it by adapting to the particular American requirements and not even trying to export our European philosophies to the US. That also goes for Asia, where we are now also active. You just have to adapt to local conditions. Swiss are quite used to this, because we have always depended on exports. No one can simply live with only a national market, in a
country of just 7.5 million inhabitants. We must export. This has worked to our advantage; it has given us an international outlook in an increasingly global market. It also shows in our internal organisation: our decision-making processes are extremely short. Being in touch is important. As a member of the company, I am always easy to get hold by everyone. We make decisions swiftly. Moreover, our company is 100% independent - the shares are owned by our family.

Today Schiller AG has three areas of expertise: Cardiopulmonary diagnostics, patient monitoring and external defibrillation. ‘Our strength lies in the ability to combine all these applications with IT solutions and hospital information systems,’ Alfred Schiller explained. ‘In the future, hospitals will become similar to what we have been used to in offices for the last 20 years. Currently, medicine has fallen behind a little. We have only ever looked at diagnostic and operating methods, neglecting the organisational side and the whole area of data management.

Isn’t one of the problems the fact that information technology has been produced for the different areas and medical fields, but not for the entire organisation?

‘This will come!’ he responded, ‘and it’s a big opportunity for our company as we will not merely offer equipment but entire system solutions. We have a few things happening in this area. We have been working with an IT company and the internal IT department at the University Clinic, Basel – one of Europe’s leading cardiology clinics – and have set up a wireless network that connects all medical technology areas in the hospital. All processes in cardiology are electronically registered and electronic patient files, including CT, MRI and ultrasound images, are accessible at all times. When doctors meet they can quickly discuss every single case by calling up Power Point electronically, without having to look for EEGs or ultrasound scans. In addition, all patients are given a CD upon discharge, which contains details of all their examinations. The local GPs are also wired up to this centre. This all makes the work far more efficient. For example, an anaesthetist can go to a terminal and access all relevant information electronically, prior to an operation, without having to gather bits of information from different places. The doctors in Basel are very happy with the system - and this network will grow. These days, when a GP refers a patient to hospital he can send the patient’s file to the hospital electronically. Then he can log on and keep up to date with what is happening to his patient while in hospital, and when the patient is discharged he receives all the information, without anything being sent by post.

The three areas of our involvement that I mentioned are covered by IT solutions that are now required for the daily use of this equipment and these diagnostic processes. The IT solution has to be integrated with the equipment. We also produce hardware. The interfaces are defined and now also standardised. All equipment manufacturers must be able to do this. We are a member of the IHE (Integrating Healthcare Enterprises) and we are at the stage where we can transfer our data onto existing systems via conversion programmes. Providing IT solutions is a very support-intensive business. How can there be profit in this?

‘By combining that with the sale of hardware,’ But this means the equipment will be more expensive - surely no one accepts that?

‘It’s accepted as long as the equipment can be integrated. If you buy cheap equipment manufactured in the Far East, for instance, of course this isn’t possible. This is the art of selling. You have to make the doctor realise that, although he might save €1,000 by buying a cheaper product elsewhere, he will have no support and advice. We supply combined IT solutions – and support. Of course this costs money! It is mostly done via service contracts. One of our most important, strategic objectives is to integrate in this world of IT and to be compatible. As we are active globally we have to be able to adapt to the most varied solutions. However, we are actually more advanced than they are in the USA. In the average US general practitioner’s surgery, most things are still done manually. Germany, France, Switzerland and particularly Italy are far more advanced. In Italy, we work closely with a company called Esaote. Eleven years ago we convinced them to have their EEG equipment manufactured by us. Now, with Esaote, we are by far number one in the Italian market. Their IT solutions are brilliant and our systems are integrated with those solutions.‘

Today, he added, the firm’s presence in France is ‘extremely strong’, which he attributes to Schiller having a production plant there. In addition, the firm will soon open its new sales offices building in Paris. Schiller also works partly with Esaote in England, where the health service is in a dynamic state of change. In addition, the firm uses two distributors there.

‘We analyse each country individually, then adapt to what we have found, so our strategies are different in different European countries,’ Alfred Schiller confirmed, reflecting. ‘The healthcare sector in general is a crazy market and you must be very flexible to survive.’
The Intensive Care Unit (ICU) in the Medicine and Dermatology Institute, Hospital Clínico de Barcelona, has implemented the IT system Infinity ChartAssist. In addition to freeing staff from manual data collection, Dr José María Nicolás, specialist in Internal Medicine and Intensive Care Medicine and Head of the hospital’s ICU, expects that this information solution will enable precise monitoring of the medical care process. The ICU also uses Infinity Delta patient monitors, which are fully integrated with ChartAssist, as well as Eva 1X ventilators from Draeger Medical.

Before purchasing the equipment, Dr Nicolás and the ICU team first evaluated electronic data management systems made by various major manufacturers, in relation to their existing SAP Healthcare hospital information system (HIS). Their choice - Draeger’s Infinity ChartAssist - was made because it is designed specifically for critical care. ‘It was easy to customise the parameters at the user level, and there was no duplication with our existing HIS,’ Dr Nicolás pointed out, adding that the new system facilitates the collection of ICU data and consolidates all the different paper-based forms on one platform. ‘Thanks to that, we have simultaneous access to the entire HIS, including radiology examinations and lab results.’

When trained, the staff migrated to the new system in 24 hours. To aid planning, Dr Nicolás said, personnel attitudes to new routines were evaluated. Although a group of people showed slower adaptation characteristics ‘...the motivation of other department members spurred a very fast and problem-free implementation,’ he said.

‘The system is currently well accepted. Our nurses particularly like the automatic collection of monitoring information and different types of vital support systems data, because it allows more time for patient care. We hope that by reducing the time dedicated to collecting data manually - 20-30%, according to the literature - we’ll increase the level of patient care.’

Auditing - Based on his experiences, Dr Nicolás said that automating data collection facilitates the auditing of medical care processes. ‘We expect that data collection and subsequent information preparation will support decision-making in our daily work. In fact, automatic data collection does not make sense if it does not help us design ways to gauge different areas, such as resource tracking, evaluation of results, and patient medical care processes.’

Remote access - The web-based ChartAssist gives authorised users access to patient data from any PC connected to the hospital’s Intranet. The system can be configured locally or on the web, and many clinicians can access patient data simultaneously for consultations.

Dr Nicolás believes that the need for intensive care will increase in coming years, explaining: ‘High-tech hospitals will specialise in treating serious diseases, while less serious problems will be treated in outpatient clinics. So, intensive medical care will be of major importance.’

If ChartAssist demonstrates that it benefits patient care, it is likely that it will be extended to the hospital’s other ICUs, Draeger reports.

- The 100-year-old, 782-bed Hospital Clínic de Barcelona, is a leader in medical assistance and educational training. It also has acquired international recognition for its scientific publications.
- The Medicine and Dermatology Institute’s ICU, which provides care for patients with infectious diseases, has 8 beds, 4 doctors, and 20 nurses. They tend 350 patients annually (average stay: 7 days).
Measuring hospital performance is a complex and essential activity. According to Professor Alan Maynard, measuring hospital performance involves not only looking at patient outcomes, such as mortality and complications, but also assessing the performance of individual practitioners, including the impact of their decisions on patient outcomes. This approach to performance management is epitomised by President Reagan's decision, nearly a century ago, to publish the mortality rates of all hospitals treating Medicare patients. The hospitals were outraged and insisted that many of the data were inaccurate. To which the administration responded by emphasizing that it was as the case the activity levels of orthopaedic surgeons by incentivising the shifting of work of the distribution, lead to improved activity but poor patient outcomes.

Performance management that ignores patient outcomes is potentially dangerous. Often, further, their use will preventably affect performance. For instance, in Pennsylvania, and New York, the publication of post operative cardiac mortality by individual practitioners had an immediate effect on providers. Poorly performing providers changed their patient selection procedures, treating less complex patients with fewer co-morbidities and, in so doing shifting the mean of the distribution (thereby apparently ‘improving’ outcomes) by excluding the more risky patients from their surgical procedures. These high-risk patients were then treated medically at higher cost and with poorer outcomes. This example shows clearly the significant and sometimes perverse effects of publishing performance data.

It is now time to complement measures of failure, such as mortality, with measures of success in medical interventions i.e. patient reported outcome measures (PROM). The measurement of changes in mental and physical well-being uses generic instruments (i.e. measures that can be used across clinical specialties) such as short form 36 (www.sf36.org) and EQ5D (www.euroqol.org). These instruments have been translated into dozens of languages and used in thousands of clinical trials. However, they are not used in routine clinical care, particularly as performance measures. An exception to this is the British private insurer, the British United Provident Association (BUPA). They offer SF36 to their elective patients at entry to the hospital andVis months after the completion of the procedure. This enables them to ensure consumer protection against poor clinical practice and it also enables them to monitor and manage the relative performance of the practitioners they employ in terms of restoring the mental and physical functioning of their patients. This pioneering work is now being emulated by experimental work in the UK.

Performance management is complex and has to use both administrative measures, especially PROM, which can be used for the appraisal of practitioner performance and for their revalidation as well as for ensuring value of money in public and private healthcare systems. It is crucial how little use there is of PROM measures and how all measures of activity and outcome are often not linked to incentive systems by which clinical practice can be changed.
In August last year, Hurricane Katrina smashed into the USA’s Gulf Coast. Within 36 hours a swathe of Louisiana had become a disaster zone. Just two weeks after the event John Matessino, President of the Louisiana Hospital Association, Baton Rouge, described the transformation of its healthcare services and heroic efforts of healthcare workers, many of whom also suffered personal losses.

Goal: Identify Patients Correctly

Protocol 1: Use at least two (2) ways to identify a patient when giving medicines, blood, or blood products; taking blood samples and other specimens for clinical testing; or providing any other treatments or procedures. The patient’s room number cannot be used to identify the patient.

Goal: Improve Effective Communication

Protocol 2: Implement a process/procedure for verbal or telephone orders, or for the reporting of critical test results that requires a verification “read-back” of the complete order or test result by the person receiving the information.

Goal: Improve the Safety of High-Acute Medications

Protocol 3: Remove concentrated electrolytes (including, but not limited to, potassium chloride, potassium phosphate, sodium chloride >20%) from patient care units.

Goal: Eliminate wrong-site, wrong-patient, wrong-procedure surgery

Protocol 4: Use a checklist, including a “time-out” just before starting a surgical procedure, to ensure the correct patient, procedure, and body part.

Goal: Prevent patient treatment delays and the emergency placement of tens of thousands of patients

Protocol 5: Develop a process or checklist to verify that all documents and equipment needed for surgery are on hand and correct and functioning properly before surgery begins.

Goal: Mark the precise site where the surgery will be performed.

Protocol 6: Use a clearly understood mark and involve the patient in this decision.

Goal: Reduce the risk of health care-acquired infections.

Protocol 7: Comply with current published and generally accepted hand hygiene guidelines.

Goal: Reduce the risk of patient harm resulting from falls.

Protocol 8: Assess and periodically reassess each patient’s risk for falling, including the potential risk associated with the patient’s medication regimen, and take action to decrease or eliminate any identified risks.

In traditional civilian multiple casualty events (e.g. hurricanes, floods, earthquakes, pandemics, rai...
When hospitals are overwhelmed

Chalmette had water into the second floor of a two-story building where I witnessed a boat tied to a second story windowsill left after the evacuation.

The only piece of ground in the entire parish that did not flood was the administration building of the ExxonMobil refinery. At the refinery, a makeshift clinic had been established with a few physicians and two registered nurses from the hospital. They had lost everything in the storm but were relentless in their commitment to care for people in need.

In the aftermath of the storm, our office was in communication with many of the hospitals that needed to be evacuated due to the floods. What the healthcare workers at these hospitals did for their patients, the families and each other is amazing. Evacuations took almost four days because of the difficulties encountered in securing, communications and problems of evacuating a flooded area.

Temperatures at that time exceeded 95 degrees outside during the peak of the day and more than 100 inside.

One can only imagine the experiences people faced in caring for their patients. In the end, nearly 2,200 patients and 9,000 staff and guests were evacuated.

The LHA has also been helping hospitals and family members locate patients who were transferred to hospitals all over the nation and established a service on our website.

Many people have been calling in tears either relieved to know their loved one is safe or that at least someone is trying to help.

One evening, I stayed until 1 a.m. taking calls after call from many desperate family members. The American Hospital Association and other state and metropolitan hospital associations also assisted in this effort. Hundreds of families have been reunited with patients that were evacuated, and the number is climbing every day. This effort will continue as long as necessary.

While I think we have waded through the initial chaos from the storm, there are mountains to scale on the road to recovery. Thousands of healthcare workers affected will need our continued support. Many have lost everything.

I cannot say enough about the efforts of the entire team at the LHA and the many colleagues affected by Katrina to rebuild their lives. For our European readers who want to contribute to this fund, please go to: http://www.thecarefund.net/thecarefund/index.html.

John Matessino’s article was first published in Modern healthcare @www.modernhealthcare.com/page.cms?pageId=1300&podId=W-3.

Paul E Page MD MPH FACEP FCCM, Professor of Medicine, Surgery, Public Health and Chair, Emergency Medicine, The University of Texas Southwestern Medical Center, Dallas. He was also Director of the City of Dallas Medical Emergency Services for Public Safety, Public Health and Homeland Security.

Ira R. Nestel MD, Clinical Instructor in Emergency Medicine and Fellow in Government Emergency Medical Services, GEMSIS Section of EMS, Homeland Security and Disaster Medicine, at TSMC&PHHS. Dr. Nestel is also Assistant Medical Director for Resuscitation Research at Dallas Metropolitan BioTel (EMS) System.

Gary A. Nestel MD FACEP, Assistant Prof. Emergency Medicine, Director, Government Emergency Medical Security Services (GEMSIS) and EMS Fellowship Programmes, and Associate Chief Section of EMS, Homeland Security and Disaster Medicine, at TSMC&PHHS. Dr. Nestel is also Assistant Medical Director for Resuscitation Research at Dallas Metropolitan BioTel (EMS) System.

Raymond E Sensionton MD FACEP, Associate Professor, Emergency Medicine and Co-Director, Section of EMS, Homeland Security and Disaster Medicine, at TSMC&PHHS. He is also Co-Editor-in-Chief of ‘National Disaster Life Support’ Courses in Dallas.

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When hospitals are overwhelmed since this surge population was comprised of elderly displaced citi- zens, underserved segments of soci- ety, and individuals with special needs, it created an unexpected, novel stresses on the impacted healthcare community. In turn, healthcare practitioners, administra- tors, legislators, and regulators will now have to formally consider new models for disaster medical care.

Accepting a sufficiency of care model

The fundamental change needed in healthcare delivery during episodes of excessive demand in an environment of limited resources is the implementation of a ‘sufficiency of care model’. This is distinctly dif- ferent from the usual tenants of the ‘standard of care’ model that is based solely on the premise of a minimal acceptable level of quality healthcare delivery. For example, the use of simple cots and bag-valve devices instead of approved hospit- al beds and ventilators, or limita- tions in climate control and other provider-to-patient ratios, are but a few of the many elements that may require modification during periods of excessive patient care demand in a resource-constrained environ- ment.

In these cases, licensing, reg- ulations, or accreditation standards, however reluctantly, must be modi- fied.

For example, many plans for pandemics propose the concept of home-based care, utilising either indirect medical care via electronic means or direct medical care via roaming, community-based med- ical teams. Healthcare facilities and normally-compassive healthcare providers will likely be reluctant to implement the necessary strategies as outlined. However, during con- ditions of extreme surge demand, the clinical paradigm of doing the greatest good for the greatest number of potential survivors must drive decision-making.

Examples of entry, expand and exit strategies

In addition to sufficiency of care, there are many potential strategies for handling significant surge capacity demands. These strategies may be categorised into three gen- eral groups: entry, expand and exit. ‘Entry’ strategies refer to reducing entry at surge facilities of new or out-patient pro- cedures and establishing surge capacity facilities outside of the traditional healthcare base. This inclusion of specialty facilities such as long-term acute care, nurs- ing home and other rehabilitative facilities is potentially useful. Effective risk communication is also an important ‘entry’ factor.

The ability to deliver succinct, timely public information mes- sages through the media may sig- nificantly reduce unnecessary or untimely arrival of large numbers of the ‘worried well’ in the general population. Even preventive rec- ommendations for cough eti- quette, compulsive hand cleaning and self-quarantine can be very useful. Detection and medical decontamination capabilities are also a useful ‘entry’ strategy as terms of limiting facility closure due to contamination.

Strategic increase internal facility capacities and capacities are considered to be part of the ‘expand’ group. This would include the creation of alternate treatment areas by increasing the in-patient bed capacities through the use of hallways, auditoriums, or out-patient beds. Other ‘expand’ strategies include pre-designated assignments for various groups to manage post- disaster hospitals, as well as access to, off-site caches of immediately accessible personnel databases, and many of the traditional ‘disaster plan’ initia- tives.

In the long term, hospitals may need to re-consider architectural designs and significant infrastructure changes.

Previous planning, alternative-site medical surge facilities (convention centres and sports arenas) had to be implemented, within a matter of hours, to provide timely care for thousands and thousands of Gulf Coast evacuees in settings far from the destroyed sites. On average, these centres, spread across the southern US, Texas and other more distant sites, managed to care for twice as many patients each day as they would have at their already- overwhelmed emergency depart- ments and ICUs. Few of these patients had their existing medica- tions, medical records or even the telephone availability of their own healthcare providers. Furthermore, previous planning, alternate-site medical surge facilities (convention centres and sports arenas) had to be implemented, within a matter of hours, to provide timely care for thousands and thousands of Gulf Coast evacuees in settings far from the destroyed sites. On average, these centres, spread across the southern US, Texas and other more distant sites, managed to care for twice as many patients each day as they would have at their already- overwhelmed emergency depart- ments and ICUs. Few of these patients had their existing medica- tions, medical records or even the telephone availability of their own healthcare providers. Furthermore,
The Med-e-Tel eHealth conference and trade show, attend- ed annually by healthcare professionals, industry represen- tatives, insurance providers and policy makers from almost 50 countries, will also include representatives from the European Commission, World Health Organisation, International Telecommunication Union, and the International Society for Telemedicine & eHealth. 'It brings all parties together to learn from each other and share experiences,' explained Frank Lievens, Med-e-Tel's International Coordinator. This year's event will again cover a wide variety of health ICT topics, ranging from broadband networks and mobile solutions, to standardiza- tion and interoperability. ICT of course, and IHE's support for col- laboration between Europe and Siberia in IST projects.

Vein scanning as a security system

A newer method of biometric security control uses near-infrared rays to scan the unique pattern of veins in the palm. The reduced haemoglobin flow- ing through the veins of the human palm absorbs the rays, reducing the reflection and displaying the veins as a black pattern. This pattern is then compared with a pre-registered database and verified with biometric accuracy. Since every hand has its own unique veins pattern that are present at birth and remain nearly impossible to fake identity through manipulation.

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By Thomas Bengs, Product Manager for Vein, Fujitsu Europe Limited Group

Potential Danger

Although an array of biometric authentication systems are currently available, including fingerprints, iris or face recognition. All vary in the security they offer. Some are even contested by security experts. For example, facial features, iris or vein patterns. Germany’s Bad Reichenhall City Clinic was the first hospital in the world to introduce biometric iris scanners to protect maternity ward access from unauthorised entry. Now the Röden Clinics in Riebins-Damgarten have also intro- duced biometric authentication through fingerprint controls at the entrance of its maternity room facil- ities.

The advantages of biometric authentication are obvious. Classical password or PIN-based authentica- tion systems cannot determine whether the person entering the correct data or keys is actually the author- ized owner. In addition, unlike passwords, chip cards or keys, biometric characteristics cannot be forgotten or lost. Potential Danger

The system compares personal data with confirmation or rejection of the identity claim of a given person. The clear determination of iden- tification of identity to clear access to healthcare and assistance operators. All theme-based halls

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What is eHealth and why is it important? Today, in just seconds, eHealth - the tools and services of information and communication technologies in healthcare - provides health professionals access to vital data for patient care and to the latest literature and knowledge from the hospital system. It ultimately aims at reducing administration time and increasing time spent on patient care and continuation education, many deployed systems leave much to be desired. We use the term eHealth to encompass classical medical and health informatics as well as telemedicine, telecare and telecommunication. The eHealth systems are to provide access to best quality care for people isolated from care facilities, due to their location or other reasons.

Has eHealth delivered real value? Yes, eHealth can deliver real and profound benefits when accompanied with the right organisational changes and skills. It can improve access to quality of care and even enhance the provision of public services through productivity gains and quality improvements. Several examples of current deployment of eHealth solutions are available in E-Health - Current situation and examples of implemented and benefits realised. The European Commission, as led by Mr. I., Wilson P., Healy JC (Eds.). IOS Press, Vol.100, (2004) and on http://www.e-health.tso.org

What is the role of the European Commission, DG Information Society and Media? The European Commission (EC) was one of the first funding agencies in the world to support this multidisciplinary field. In total, since 1988, almost €550 million Euros in EU contributions have been granted to approximately 450 R&D projects in eHealth programmes alone. Many of these research results have now been tested and put actively into practice. (Details: www.cordis.lu/ist/health/index.html).

As a result, Europe has a lead in the deployment of Regional Health Networks, Electronic Health Records, Health and social care systems and services such as e-referral and e-prescription. The market has grown multifold since 1990. However, the deployment of eHealth solutions varies greatly among European countries.

EU eHealth Action plan

In April 2004 the EC adopted the Communication COM (2004) 356 final eHealth - making healthcare better for European citizens: An Action Plan for a European E-Health Area. This describes the main objectives of eHealth, the challenges in wider deployment and proposes specific actions for Member States with the support of the EC. The Action Plan’s main areas:

- National eHealth Roadmaps and Leadership: Each EU Member State is to develop a national and/or regional roadmap for the deployment of eHealth systems. These national roadmaps will be discussed in the next eHealth Ministerial conference 2006 in Malaga, Spain (www.ehealthconference2006.org).

- Interoperability of eHealth systems: The connectivity and interoperability of eHealth systems is a prerequisite for the main added value of eHealth, namely enabling patient-centred healthcare, where providers have access to comprehensive and relevant health information stored anywhere in the EU. The need to identify a person unambiguously is an important component of the interoperability of health information systems. The current focus is on necessary technical, semantic and organisational steps in order to provide short and basic summary of an electronic health record on line everywhere in Europe.

- Labelling and Accreditation: To support the development of an eHealth market there is a need to agree on attributes and norms that define good quality systems and services. Exchange of experiences between EU Member States and draft guidelines are expected in 2007. The European Commission supports these activities through Q-REC project (www.eurorec.org)

- Legal and Regulatory Issues: A greater legal certainty with regard to eHealth services (not including cross-border eHealth services) within the context of freedom of movement of people, goods and services necessary and will be addressed by the Action plan by 2009.

Conclusion

The EC has invested early in this domain and helped the European Union and its stakeholders to become global leaders. The ultimate aim of eHealth is to support the new generation of patient-centred health delivery systems. Such future systems connect all the points of care, enable access and sharing of information, and ensure continuity of care from prevention to care and rehabilitation.

The potential benefits but the full potential of eHealth tools and services has not yet been realised due to challenges in wider deployment that are rather organisational, financial and of legal nature.

Since 2004 Europe has its eHealth Action Plan, providing activities to support a coherent implementation of eHealth in Europe over the next five years. To achieve a European wide eHealth area, supporting patient safety and mobility of citizens, is a real and worthwhile challenge.

* Disclaimer: The views expressed in this article are those of the author and do not necessarily reflect the position of the EC.

The European Commission describes eHealth as the application of information and communications technologies (ICT) across the whole range of functions that affect the health sector, from the doctor to hospital manager, via nurses, data processing exchange, to administrative tasks and of course the patients. Since 2003, the EC has supported eHealth at High Level Conferences, and the first of these events took place in that year, in Brussels, Belgium. The second conference was held in Lisbon, Portugal, in 2004. Last year the third venue was Tromso, Norway.

The 4th eHealth High Level Conference - along with an exhibition and two associated events: the European eHealth Industry Forum and the World Panel on Interoperability - will be held in Malaga, Spain, from 10-12 May 2006. The organis-
Near-patient testing (NPT) is any test that can be performed at the patient's bedside or near the patient. It is widely recognised that procedural errors generate inaccurate data that can have serious clinical consequences. Therefore, quality assurance is crucial. The chronological link between NPT, quality assurance, and clinical effectiveness is common practice for general practitioners to send urine samples to the laboratory in order to determine their patients’ status. Therefore, it is essential to ensure that the results obtained are accurate and reliable. 

NPT benefits: reduction of total costs, improved patient care with better quality of life, speed up diagnosis, so decisions can be made more efficiently. However, it is also clear that NPT gives faster results. By, a patient outside the traditional healthcare system.

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The success of NPT depends on the effectiveness of the training of non-laboratory staff, including knowledge of pre-analytical factors, the importance of clinical decision-making, change the practice and automation of the ELISA workload without changing a laboratory's routine workflow. The development of diagnostic products and systems has paralleled the development of new technologies in fields such as biology, electronics and computer science. As a result, modern analytical and diagnostic tests have become ever more effective in determining a patient's clinical state. The firm Grifols specialises in the development of new technology, the optimised column design, the exclusive presence of white products and data and process management.

Advances in analytical and diagnostic tests

Experts estimate the global value of biotechnologically manufactured chemicals products to be worth more than 1 trillion euros. Apart from the USA, Germany is now considered the world's strongest location for biotechnology development and production. For this reason biotechnology will again be an important sector at the 20th Analytica and Analytical Chemistry, which covers laboratory technology, analysis, high-tech laboratory automation and data and process management.

Three areas of biotechnology have become defined by colours - red, green and, in more recent years, white. Although red biotechnology (medical and pharmaceutical applications) and green biotechnology (genetic engineering) are the predominant applications, the white biotechnology sector is expected to move faster.

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NPT training: For NPT to realise its potential economic and clinical benefits, it must be developed, validated and supervised by qualified staff from the clinical laboratory and it has to be performed within the framework of a clearly defined policy. An approach that may be varied with local circumstances is to be preferred.

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SOUND PHILOSOPHY LEADS TO QUALITY LED LIGHTING

Formerly integrated with the electronics/medical division of Trumpf GmbH + Co KG, the medical technology group has now moved to a separate business segment, led by Managing Director Harald Volker. “Coming forward as head of this new segment was important to me,” he explained in our interview. “It had overshot in since it first came part of Trumpf. Years ago I worked in our subsidiary Hattinger Elektronik in Freiburg. This also owned a small medical technology firm in Umkirch. We extended the range of Hattinger’s activities in medical technology through Trumpf Medical Systems (formerly Blasomedia) in Saalfeld, and Trumpf Medical Systems (formerly Kreurer), in Puchheim, near Munich.”

With the re-definition of this business division, the previous managing director, Dr Simone Rehm, returned to Trumpf’s head office in Ditzingen. “She did a great job in helping us through a somewhat difficult period and ensuring that the company is now back on track and growing,” Harald Volker said, adding that efficiency has increased significantly.

In the changeover, very few jobs had to be cut. Staff changes included the appointment of Dr Kordt Grieseneker, from Trumpf Kreurer, to the management team, as well as the assignment of an experienced production head, from the Trumpf group, “to further improve production.”

In the last financial year, 2004-5 the firm’s productivity was turned into profit. We also extended our distribution efforts, particularly abroad, and increased our marketing,” Harald Volker pointed out. Today we have a complete and outstanding range of products. This is where the synergies with the Trumpf group came into their own. The group worked with machine tools and lasers initially and had little involvement with ceiling mounts or workstations in hospitals. The synergies lay in production, through procedures and processes that have developed an entirely different manufacturing set-up - since the end of 2005 we have developed a complete production line system rather than a station-ary system. For example, stands have to be built in one place, and all the materials where brought there. This was too unstructured, complex and also inefficient, because the materials supply process was not transparent. We had storage facilities there, today our production line is much like those in the car industry - we don’t bring materials to the stand, we take the stand to the materials. We have fixed assembly positions where certain parts are added. The stand moves on a rail along the ceiling, from stop to stop, and is assem-bled along the way. There are clearly defined production steps, which make the supply of tools, materials and workers far simpler. Logically, this leads to increased effectiveness and efficiency, lowers costs and helps us to produce more items in limited space.”

Who oversees that process? “We do. The method is taught in Ditzingen. A group there intro-duces the procedures to our sub-sidaries and provides initial coaching. However, responsibility eventually falls on those in charge of production - plant managers or production unit managers. We talk about production units, because these are relatively self-sufficient.”

Each unit is responsible for itself, and its quality, and must ensure that the materials are well-managed.

This kind of process planning is not demanded as much in Europe as it is in the USA - as yet - he pointed out. “Nonetheless, we have a group of medical technology specialists who have the know-how to serve the customers who want it. The essential aspect is to integrate our products into all kinds of processes; we look at how the system we deliver to a hospital can be integrated into its workflow from a processing point of view. Then we look “backwards,” - we use the user really needs and how to link things. How can the system be combined with transport equipment? How can it be com-bined with imaging procedures? That’s an area for which we supply very creative and innovative solutions.”

Trumpf’s most important market in Europe has long been Germany, but he pointed out, that has shown a downward trend. Other Western European markets include Italy, France, and the United Kingdom. “It differs from product group to product group,” he explained. “In Eastern Europe growth rates are high, but of course they have to be able to pay for the products - and appreciate their value. Trumpf products do not sell on price alone. We see ourselves as premium manufacturers; we sell added value. Initially, Trumpf’s prerequisites are profit and a good corporate culture, then growth through innovation and quality leadership - something we are particularly keen to achieve in medical technology - and that’s why we began our latest, innova-tive development with LED surgi-cal lights.

Details & products: www.trumpf.com

New project aims to develop standards for design and marketing

Germany - Health Care Export, a new four-year project run by the Institute for Work and Technology (IWT) and the Social- and Seniorwirtschaftszentrum in Gelsenkirchen, supported by the German Federal Ministry for Education and Research, and by advertising and public relations measures from VVA Health Marketing Ltd, aims to develop international standards for inter-national healthcare service design and export marketing. “Initial health-care networks must be created and developed on an international level, so patients from abroad can be comprehensively well looked after, from the ambulance service to admission, surgery and aftercare,” explained Stephan von Bandemer, project leader at the IWT. Pointing out that health-care management is the fastest growing economic sector in Germany - among the key German industrial success stories - the industry has reached a 240 billion euro turnover, healthcare has considerable export potential; he stressed the impor-tance of co-operation between clinics and enterprises to create a stronger image abroad.

Part of the project will be observation and analysis of national and patient systems. Networks should be built up on the basis of health-care negotiating propositions, regional proximity, and eth-nic cultural relationships, the organisation point out.

VIVA Health Marketing Ltd will support participating firms and clinics in the promotion and applica-tion of export measures; this includes advertising in print media and at trade fairs, and public relations (PR) for the pro-ject groups.

A scientific analysis of project results is provided as a guideline for firms who may wish to enter the international market at some point. Participation in the project is open to health care institutions and companies. Apart from participating companies and firms are such well-known institutions as the German University, the Nuremberg Clinic, and Meyra, the tradition-rich wheelchair manufacturer.

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— Hans-Georg Ostermann
Most sophisticated ideas start with a simple scribble.

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